REMARKS

(Ser. No. 10/078,600-Amendment A)

Applicant has rewritten in independent form claims 9,10,14,16,18,20,21,27,28 and 59, and, in so doing, avoided the inappropriate use of the word "abstract" originally in claim in claim 1, now incorporated into these claims. Claim 11-13, 15, 17 and 22 are variously dependent on these now independent claims. All of these claims have been indicated as allowable if rewritten in independent form or if dependent upon one of the allowed claims that have been rewritten in independent form. All these claims, 9-18, 20-22, 27-28 and 59 should therefore now be allowed.

Claims 1 and 5 have been amended to correct the defects noted by the examiner, and withdrawal of the rejection of claims 1-28 under 35 USC 112 is requested in light of these corrections.

Claims 9 and 57 have been amended to correct other minor technical defects note by the undersigned, entry of these changes is requested.

Claim 1 has been amended to clarify what is meant by a "flow meter" as that term is used in the application is a "flow quantity meter" that directly measures quantity of passing water regardless of the water pressure sensitive flow rate that is measured by the so-call "flow meters" of the cited references. The clarification conforms to the description of the "flow meter" as described at pages 14-15 of the specification, as follows:

At page 14:

> "First, the total amount of water that is passed to either the hot water tank for heating or directly to the mixing chamber 28 for mixing is measured by a flow meter 36. The flow meter has an input connected to the output 38 of the pressurized cold-water source 30 and measures all of the water that passes from the pressurized water tank 30 and the brewing system 10. As noted, this measurement eliminates the need to provide a pressure regulator. Preferably, flow meter is a Hall effect, paddle-wheel type of flow meter with a magnetic output. The magnetic output signal provides an indication of each full, or partial revolution of the paddle-wheel. For each full, or partial revolution of the paddle-wheel, a known quantity of water is passed from the inlet of the flow meter 36 to the outlet 40 of the flow meter 36. By counting the number of revolutions, or part revolutions, of the paddle-wheel, the total quantity of water that is passed through

> the flow meter 36 is measured. With use of a good commercially available flow meter, it is believed that even with a line pressure variation of between five and one hundred pounds per square inch, there will be a maximum 1% variation in measurement."

At page 15:

> "When the brew valve 46 is open and the diluent valve 50 is closed, measurements of quantity of water passing through the flow meter 36 are measurements of brew water being passed to the spray head 22 and the brew basket 24. Conversely, when the brew valve 46 is closed and the diluent valve 50 is open, then measurements of water passing through the flow meter 36 are measurements of mixing water being added to the mixing chamber." and
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> "The controller 52 receives an electrical input signal from the flow meter 36 representative of the amount of total flow of cold water from the pressurized cold-water source 30 on a signal line 54."

Thus, the "flow meter" of the present invention is a flow meter that directly and accurately measures the quantity of water passing through the meter regardless of changes in flow rate or water pressure.

Not one of the three applied base references has or suggests such a directly measuring quantity flow meter. In the tea brewer of Vitous, tap water is fed through a solenoid-controlled valve 27 for a preselected time-period of approximately four minutes initiated upon actuation of a brew switch 77. This water is passed through a divider valve 29 that continuously passes one-fourth the water to the hot water tank 37 and three-fourth the water to the reservoir or dispenser 19 that is mixed with the extract from the brewer. (See Fig.2 and Col. 5, lines 63-68; Col.6, lines 1-4, 8-11,25-30 and 48-54; Col. 10, lines 12-19 and 35-49). The timed water delivery system of Vitreous thus teaches away from actually measuring the quantity of water by any means and will only function reliably, consistently if the input water pressure remains fixed from one brew cycle to the next. Vitous teaches to compensate for different water service line pressures by adjusting the timer 28 and thus teaches away from any form of direct quantity measurement by means that is substantially independent of water pressure. (See col. 11, lines 17-20).

Nonetheless, if the water pressure changes from one brew cycle to the next then different quantities will be delivered accordingly regardless what fixed time period has been preselected. If the water pressure were to double, then the quantity of water that would be delivered would also double, and there is nothing in Vitous to prevent a dangerous water overflow condition. The total volume of the water may be adjusted but

only by adjusting the delivery time-period, but this again assumes that the line pressure will remain substantially constant. (See. Col. 11, lines 16-19). However, the tea strength may be varied only by mechanical, manual adjustment of the divider valve 29, and this adjustment may only be used to "slightly change" the ratio of dilute to brewing water. (See Col. 11, lines 20-26). be a slight adjustment and thus teaches away from any form of automatic, electronic control of tea strength. Accordingly, Vitous cannot be properly combined with any other cited reference that teaches the use of either a flow meter or an electronic control of tea strength.

In fact, there is no teaching of either of the critical features that are totally lacking in Vitous so that even if such an improper combination were made, the claimed invention could not result. The tea brewers of Stover, like that of Vitous, has a water distribution system that fails to directly measure the actual quantity of water that is delivered, but instead uses a timer 128 or 128' for controlling solenoid controlled valves 106, 106', 108, 108', 90, 90'. (See Col 7, lines 39-45; Col. 8, lines 44-51 and Col. 9, lines 3-3-7). Likewise in the iced tea brewer of Goerndt, the, water from a water source of 14 of unknown type is delivered to the mixing chamber via a valve 15 that is controlled by a dilution timer 22 while hot water is delivered in accordance with a timing schedule regulated by a hot tea timer 21. (Col2, lines 42-63). The addition of sweetener has nothing to do with the brewing or diluting of the tea or the delivery of water required to do so, but even the sweetener pump 19 is controlled by a sweetener timer 23 and assumes a uniform pressure presumably because of the source of corn syrup 20 to a controlled source of CO2 pressure. (See Col. 3, lines 25-50) Thus, there is no possible combination of the references that can suggest the subject matter of claim 1. There is absolutely no suggestion of a brewer in which the amount of water delivered is controlled by a flow meter that measures the actual quantity of water substantially independently of the time of delivery, the flow rate or the water pressure. Since there is clearly no proper basis for rejection of Claim 1, and the rejection on the basis given should be withdrawn.

It has been admitted that neither Vitous, Stove nor Goerndt teach any use of a flow meter or controller responsive to a flow meter for selectively controlling the delivery of water to the brew basket or vessel. What has not been admitted but which has been demonstrated above is that all of these three references are counter suggestive of

such a flow meter and responsive controller, and thus could not be properly combined with any other reference to suggest the invention of claim 1. Moreover, In fact, even if such an improper combination were to be maintained despite the counter-suggestion, the invention could not result, since Muis, like the three base references also lacks such a flow meter or a controller controlled by such a flow meter. Instead, the flow meter 7 only measures flow rate and does not directly measure quantity. This is made clear at Col. 4, lines 32-36, at which it is stated:

> "The measurement of the flow rate can for instance be effectuated with a flow meter. 7. The data measured by this flow meter are passed on to a control 8. The control can then actuate means 9 and 10, respectively , for controlling the supply of liquid."

Thus, there is only measurement of " a parameter corresponding with the amount of liquid supplied" (Col. 2, lines 42-44), i.e. flow rate, which like the brewers of the three base reference is pressure related and time related. If the pressure changes then the flow rate will change and different quantities of water will be delivered during the same time period, unless regulated by the controller

The flow rate at which the liquid is supplied to the chamber must thus be regulated continuously in order to for the duration of the time of contact to be substantially equal for every amount of extract to be prepared, independently of the desired strength of the extract a continuous flow control valve 7. Thus, in Muis the flow rate has to be regulated in order to control the quantity of water that is delivered while in the present invention the direct measurement of quantity eliminates the need for such flow rate regulation and there is no continuous regulation as required in Muis.

Claims 2-4 are dependent on claim 1 and are believed allowable for the same reasons set forth above. These claims also specify other features that are lacking from the applied references. Claim 2 specifies, inter alia, that the controller includes means responsive to the flow meter for temporarily storing the actual quantity of water that passes through a controlled mixing valve to the mixing chamber, and claims 3 and 4, variously dependent on claims 2 and 1, specify that the controller includes means responsive to the flow meter for temporarily storing the actual quantity of water that passes through a controlled brew valve to the brew basket. A thorough examination of each of the references fails to reveal such a memory in any of them. There can be no

suggestion of such memory, since the timing controlled delivery systems of the applied references have no need for such a memory. These dependent claims should therefore be allowed for these additional reasons.

Reconsideration of the rejection of claim 5 and 6 under 35 USC 103(a) as being unpatentable over either one of Vitous or Stover and further taken with Muis is requested. These claims are dependent on claim 4 are clearly allowable for the same reasons set forth above with reference to claims 1 and 4. This rejection is again based on the erroneous assumption that Muis shows a flow meter that measures actual quantity of water delivered when in fact all that is measured is flow rate and thus requires flow rate regulation in order to maintain uniform average flow. In Muis shut-off valve are used to regulate the flow rate, while in the present invention which operates independently of flow rate, there is no need for such regulation and flow rate regulation is eliminated. Instead, because the quantity is measured directly, all that are needed are a shutoff valve to terminate flow at the end of the brew cycle when the desired quantity of water has been delivered as determined by the quantity flow meter and comparison of the quantity actually delivered with a preselected quantity that has been stored.

Reconsideration of the rejection of claim 8 under 35USC 103(a) as being unpatentable over Goerndt taken with Muis is requested. Claim 8 is dependent on claim 1 and believed allowable for the same reasons set forth above with regard to claim 1. The proposed combination is counter-suggested by the fact that Goerndt teaches use of a timer in combination to control the quantity of water that is added without reference to the hydraulic pressure of the water source and thus is the antithesis of controlling the delivery of water independently of the time duration of delivery. However, more importantly, it has already been shown that Muis lacks a flow meter that directly measures the quantity of water that is passed and thus cannot provide this element that is missing from Goerndt or suggest such a combination. The rejection of Claim 8 on these grounds should therefore be withdrawn.

Reconsideration of the rejection of claims 7, 25 and 26 under 35 USC 103(a) as being unpatentable over any one of Vitous, Stover and Goerndt and further taken with Muis and Bunn et al (No. 5,255,593) is requested. Claim 7 is dependent on claim 4 and is believed allowable for the same reasons set forth above with regard to claim 4, while

claims 25 and 26 are indirectly dependent on claim 1 through claim 24 and are believed allowable for the same reasons set forth above with regard to claim 1 Bunn et al ('593) does nothing to add the elements that have been demonstrated above to be lacking from the base references Vitous, Stove and Goerndt,. Moreover, it has not even been asserted that the missing claim elements are shown or suggested by Bunn et al. It has even been conceded that there are elements that are not shown by any of the references, while claiming without support that the invention of these claims would be obvious. A bald assertion of obviousness without support of any kind is not a proper rejection. Thus, no correct basis has been given for the rejection of these claims, and the rejection should therefore be withdrawn.

Reconsideration of the rejection of claims 19 and 23 under 35 USC 103(a) as being unpatentable over Vitous taken with Muis is requested. Both of these references have been shown to be wanting with regard to the dependent claim 1. There need be said nothing further. These claims should be allowed.

Reconsideration of the rejection of claims 57 and 60 under 35 USC 102 (a) as being anticipated by Muis is requested in light of the amendments to both these claims and for the reasons set forth below. Independent claim 57 has been amended to clarify that the quantity flow meter is measuring the actual quantity of water that is being passed, as specified in the claim, as opposed to a flow meter that measures only flow rate as is used in the control system of Muir. Claim 57 now specifies that the flow meter directly measures the quantity of water being passed substantially independently of flow rate and water pressure. It has already been demonstrated above that Muir lacks such a flow meter but instead has a flow rate meter that is completely dependent on flow rate and is the exact opposite of, and is thus counter-suggestive of, the flow rate meter of claim 57 that directly measures the quantity of water. Because the actual quantity if being measured, as opposed to flow rate, the measurement is not effected by water pressure or flow rate. In Muir, the flow rate changes whenever the water pressure changes, necessitating the addition of a continuous a flow control valve 7 that must be controlled by the controller 8 to continuously regulate the delivery of water. This flow control valve, presumably with a variable diameter orifice like an adjustable garden hose nozzle, will be subject to liming problems and does not eliminate the need for the shut-off valve 9. In the claimed

invention, on the other hand, there is no need for such flow rate regulation and all apparatus relating to such regulation has been eliminated. Instead, the shut-off valves are simply closed once the actual measured quantity of water has through the shut off valve which is a determination made substantially independently of flow rate and water pressure. (See Col. 4, lines 21-36 and 56-59) Accordingly, Muir clear neither shows nor suggests the invention of claim 57, and the rejection on this basis should be withdrawn.

Claim 60 is dependent on claim 57 and is believed allowable for the same reasons set forth above with regard to claim 57. In addition, claim 60 has been amended to eliminate references lacking antecedents and to make the language more consistent with that of claim 60. This claim clearly indicates that the controller includes means for comparing the "actual amounts of water measured by the flow meter" of claim 60 and "passed to at least one location". In Muir, there is no indication of either a memory, measurement of actual quantity, storage of a preselected amount of water or a memory for temporarily storing direct measurements of quantity made with a flow meter that functions substantially independently of water pressure and flow rate. In fact, as indicated at Col. 6, lines 1-3, the "control will control the shut-off valve 9--- and the flow control valve 10, if any---of the relevant chamber 1 on the basis of the information obtained with the flow meter 7". Since the only information that can be obtained from the flow meter 7 is the flow rate, there is no suggestion of storage of any quantities of water either directly measured or preselected. Therefore, the basis given for this rejection of claim 60 cannot be supported and should be withdrawn.

Reconsideration of the rejection of claim 58 under 35 USC 103(a) as being unpatentable over Muis taken together with Silverman et al. is requested in light of the amendment to claim 58 and for the following reasons. Claim 58 is dependent on claim 57 and is believed allowable for the same reasons set forth above with respect to claim 58. The so-called flow meter of Silerman et al., like all the other flow meters is clearly not a quantity flow meter that measures the quantity of water that is passed by the meter but instead merely measures the rate or velocity of the water passing the meter. The first line of the Abstract makes it abundantly clear that the flow meter is used "for measuring moderate to low liquid flow rates". Also, at Col. 6, lines 63-67, it is further specified that:

"The flow meter 20 is capable of measuring within two

percent error flow rates of one quarter to two gallons per minute"[underline added]

The fact that the flow rate meter of Silverman et al. has a rotating impeller is irrelevant since the rotating impeller of Silverman is not used for the same purpose as the paddle-wheel type quantity flow meter specified in claim 58. The similarity is superficial and does not support the rejection. The rejection of claim 58 on these grounds should therefore be withdrawn.

Reconsideration of the rejection of claim 61-63 under 35USC103(a) as being unpatentable over Muis taken together with Vitous is requested. First, the rejection is based on the erroneous assertion that the Muis discloses a "controller (i.e. computer) that stores a preselected quantity of flow and inherently uses same to compare current date to regulate the flow rate water used for brewing." In fact, a close examination reveals nothing about the internal workings of the controller and the flow rate meter of Muis measures only flow rate and not actual quantity, and thus there is nothing to suggest storage of total water quantity or storage of a preselected quantity of water. Perhaps, a time duration for a given flow rate may be stored but again this is not the same as measuring and temporarily storing actual quantity of water passed independently of the flow rate. Vitous likewise fails to suggest the use of a quantity flow meter that functions substantially independently of flow rate. The controlling means of Muis is clearly not responsive to a actual quantity measurement, and therefore flow rate regulation via continuous control of an adjustable flow control valves 10, Fig. 2, is required that is entirely eliminated with the present invention in addition to shut-off valves 9. Claims 61-63 should therefore be allowed.

New claims 71-76 contain many of the same limitations set forth above in the allowed claims and other claims that should be allowed for the reasons given above and are believe allowable for the same reasons. These claims relate only to control of delivery of water to the brew basket and not to the mixing chamber. Importantly, they specify that the quantity meter functions to directly measure the quantity of water passed by the meter "substantially independently of water pressure of the source and substantially independently of flow rate of water through the quantity meter", which clearly distinguishes these claims from all of the applied references that have meters that

measure flow rate and thus are inherently dependent on flow rate and water pressure. Allowance of the new claims is therefore respectfully requested.

Claims 9-18,20-22,27,28 and 59 now rewritten and amended as needed to meet the examiner's condition for allowance should now be allowed.

Reconsideration and withdrawal of the rejection of the claims at issue, claims 1-8,19,23-26,57,58 and 60-63 are requested in light of the various amendments thereto and for the reasons set forth above. Moreover, the references cited but not applied are less relevant than those cited and also fail to show or suggest a water delivery system responsive to a quantity measurement meter that functions substantially independently of flow rate and water pressure.

Respectfully submitted,

James W. Potthast, Reg. No. 26,792

Customer No. 28,439
Potthast & Associates
2712 North Ashland Avenue
Chicago, Il 60614-1106

Voice: 773-404-6650
Fax: 773-404-6450

CERTIFICATE OF TRANMISSION BY FACSIMILE (37 CFR 1.8)

I hereby certify that the forgoing Amendment A (24-pages), Amendment Transmittal (1-page) and fax transmittal form (1-page) are being facsimile transmitted to the United States Patent and Trademark Office (Fax. No. 703-872-9306) on this 11th day of August, 2004.

Sara M. Potthast

Sara M. Potthast